

Title (en)

APPARATUS FOR PROVIDING INTRINSICALLY SECURE POWER SUPPLY AND FOR TRANSMITTING COMMUNICATION SIGNALS

Title (de)

VORRICHTUNG ZUR BEREITSTELLUNG EINER EIGENSICHEREN VERSORGUNGSSPANNUNG UND ZUR ÜBERTRAGUNG VON KOMMUNIKATIONSSIGNALLEN

Title (fr)

APPAREIL POUR FOURNIR UNE TENSION D'ALIMENTATION À SÉCURITÉ INTRINSIQUE ET POUR LA TRANSMISSION DE SIGNAUX DE COMMUNICATION

Publication

EP 2572456 B1 20141105 (DE)

Application

EP 11715909 A 20110414

Priority

- DE 102010029234 A 20100521
- EP 2011055953 W 20110414

Abstract (en)

[origin: WO2011144399A1] The invention relates to a device for providing an intrinsically safe supply voltage and for transmitting communication signals between at least two participants (T1, T2) in a communication network, wherein the first participant (T1) has a first operating electronics and the second participant (T2) has a second operating electronics, wherein the first and the second participant (T1, T2) are interconnected by exactly one pair of signal conductors (S), and wherein the first participant (T1) has a first inductive coupling element (K1) which is used for galvanic isolation between the first operating electronics and the pair of signal conductors (S), which first inductive coupling element (K1) is connected to both the pair of signal conductors (S) and the first operating electronics, wherein the first inductive coupling element (K1) is further used for transmitting communication signals via the pair of signal conductors (S) to and from the second participant (T2), wherein the second participant (T2) has a second inductive coupling element (K2) which is used for galvanic isolation between the second operating electronics and the pair of signal conductors (S), which second inductive coupling element (K2) is connected to both the pair of signal conductors (S) and the second operating electronics, whereby the second inductive coupling element (K2) is further used for transmitting communication signals via the pair of signal conductors (S) to and from the first participant (T1), wherein a voltage source (U) is provided which is used to feed in a voltage, which voltage source (U) is connected to both a center tap (M1) on that side of the first coupling element (K1) which is connected to the pair of signal conductors (S) and a ground potential (GND), wherein a center tap (M2) on that side of the second coupling element (K2) which is connected to the pair of signal conductors (S) and a tap off from the ground potential (GMT) are used to provide a supply voltage for the second operating electronics, wherein the voltage fed in by the voltage source (U) and/or the tapped-off supply voltage is limited in such a way that it satisfies the requirements of intrinsic safety.

IPC 8 full level

H04B 3/28 (2006.01); **H04B 3/30** (2006.01); **H04L 25/02** (2006.01)

CPC (source: EP)

H04B 3/28 (2013.01); **H04B 3/30** (2013.01); **H04L 25/0266** (2013.01); **H04L 25/0272** (2013.01)

Citation (examination)

US 2006262713 A1 20061123 - KARAM ROGER A [US]

Cited by

CN111023257A

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)

DE 102010029234 A1 20111124; DK 2572456 T3 20150209; DK 2665195 T3 20160201; EP 2572456 A1 20130327; EP 2572456 B1 20141105; EP 2665195 A1 20131120; EP 2665195 B1 20151028; WO 2011144399 A1 20111124

DOCDB simple family (application)

DE 102010029234 A 20100521; DK 11715909 T 20110414; DK 13180711 T 20110414; EP 11715909 A 20110414; EP 13180711 A 20110414; EP 2011055953 W 20110414